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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/360,453	07/26/1999	HIROSHI SUGITANI	35.G1250DIV.	4210

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 02/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/360,453

Applicant(s)

SUGITANI ET AL.

Examiner

Dexter Tugbang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-17 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/281,006.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The applicants' amendment filed 12/6/02 (Paper No. 13) has been fully considered and made of record.

Election/Restrictions

2. Claims 16 and 17 continue to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 11.

Drawings

3. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on 12/6/02 (Paper No. 14) have been approved by the examiner. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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5. Claims 7 and 8 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicants' Admitted Prior Art, referred to hereinafter as the AAPA.

The AAPA (specification, pages 1-5 and Prior Art Figures 1 and 2) discloses a conventional manufacturing method of an ink jet head comprising: providing a plurality of recessed portions (in layer 1113) in the substrate (heater board 104); fitting the recessed portions to the flow passage walls 1109 of the wall member 105 by applying a force from a plate spring or elastic member (bottom of page 3) to align the flow passages with the energy generating elements 1110, 1102 (in Fig. 2); and providing a raised convex pattern of material 1113, 1114 (shown in Fig. 2) where the wall member has a recessed portion corresponding to the convex pattern.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10, 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Wiech.

The AAPA teaches the claimed manufacturing method as relied upon above. The AAPA does not teach fitting the recessed portions to the flow passage walls of the wall member by vibrating the substrate.

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Wiech teaches assembling of walled members to unwalled members, i.e. substrate, (shown in Fig. 1) through the selection of material composition and vibration techniques to align and bond the members together (see col. 1, line 45 to col. 2, line 10). The overall benefits of such an assembling process provides for a simple and inexpensive manufacturing process (see col. 3, lines 17-21).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of the AAPA by fitting the recessed portions to the flow passage walls of the wall member by vibrating the substrate, as taught by Wiech, to positively allow for a simple and inexpensive manufacturing process.

Regarding Claims 10, 14 and 15, it would have been an obvious matter of design choice to choose any desired material of the convex pattern and amplitude of vibrations, since applicants have not disclosed that the claimed convex pattern material of an epoxy and amplitude of vibrations of the substrate being smaller than the width of the recessed portion, solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the convex pattern of material and amplitude of vibrations taught by the AAPA and Wiech, respectively.

8. Claims 9 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Wiech, as applied to claims 7, 8, 11 and 12 above, and further in view of Drake.

The AAPA, as modified by Wiech, teaches the claimed manufacturing method as previously discussed. The modified AAPA method does not teach a dummy nozzle portion.

Drake shows a dummy nozzle portion (notch 16 in Fig. 2) for the purpose of aligning the wall member with the substrate (see col. 5, lines 10-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have improved the modified AAPA method by including the dummy nozzle portion, as taught by Drake, to have an additional aid in aligning the wall member with the substrate.

Response to Arguments

9. Applicant's arguments filed 12/6/02 (Paper No. 13) have been fully considered but have not been deemed to be found as persuasive.

In regards to the merits of the AAPA, the applicants' contend that the AAPA does not teach that the recessed portions have a bottom surface located at a position that is lower than a position of a heat acting surface of the substrate.

The examiner most respectfully traverses. The examiner agrees with the applicants that the above feature does not appear to be taught by the AAPA. However, the above feature with which the applicants rely upon is recited in the preamble of Claim 7 and 11 and does not patentably further limit the claimed manufacturing method. These limitations recited in the preamble of the claims are intended use limitations and have not been given patentable weight since the body of the claims do not depend upon the preamble for completeness and the process steps are able to stand alone. *In re Hirao*, 535 F.2d 67 190 USPQ 15 (CCPA 1976). For example, the body of Claim 7 (lines 10-14) and Claim 11 (lines 10-14), as well as any of the limitations of dependent Claims 8-10 and 12-15, do not provide any interconnection between the recited process steps and any "heat acting surface" of the substrate.

Accordingly, the examiner maintains the above rejections.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

adt
February 20, 2003


PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700